NEW MEXICO OIL CONSERVATION COMMISSION

# MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

RECEIVED
JAN 11 1974
O. C. C.
ARTESIA, OFFICE

| | | | |
|---|---|---|---|
| Type Test: [X] Initial [ ] Annual [ ] Special | | Test Date: 11-14-73 | |
| Company: Samedan Oil Corporation | Connection: NONE | | |
| Pool: Undesignated | Formation: Morrow Gas | Unit: - | |
| Completion Date: 11-9-73 | Total Depth: ~~9277'~~ 9520 | Plug Back TD: ~~9236'~~ 9277 | Elevation: 3359' GL+~~11~~' |
| Farm or Lease Name: Fanning Comm | | | |
| Csg. Size: 4 1/2 / Wt.: 11.6 / d: 4.000 / Set At: 9461' | Perforations: From 9207' To 9233' | Well No.: 1 | |
| Tbg. Size: 2 3/8 / Wt.: 4.7 / d: 1.995 / Set At: 9180' | Perforations: From Open To Ended | Unit: K / Sec.: 4 / Twp.: 19s / Rge.: 26e | |
| Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single | Packer Set At: 9130' | County: Eddy | |
| Producing Thru: Tubing | Reservoir Temp. °F: 168° 9120' | Mean Annual Temp. °F: 60 | Baro. Press. – $P_a$: 13.2 |
| State: New Mexico | | | |

| L | H | Gg | % $CO_2$ | % $N_2$ | % $H_2S$ | Prover | Meter Run | Taps |
|---|---|---|---|---|---|---|---|---|
| 9220' | - | 0.626 | 0.42 | 6.09 | 0.00 | X | - | - |

| NO. | FLOW DATA: Prover Line Size | X | Orifice Size | Press. p.s.i.g. | Diff. $h_w$ | Temp. °F | TUBING DATA: Press. p.s.i.g. DWT | Temp. °F | CASING DATA: Press. p.s.i.g. | Temp. °F | Duration of Flow |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SI | | | | | | | 2769 | | PACKER | | 91.0 |
| 1. | 2 | 12/64 | 3/4 | 100 | - | 28 | 2067 | 74 | | | 1.0 |
| 2. | 2 | 10/64 | 3/8 | 362 | - | 30 | 2285 | 74 | | | 1.0 |
| 3. | 2 | 8/64 | 1/4 | 646 | - | 32 | 2312 | 74 | | | 1.0 |
| 4. | 2 | 6/64 | 3/16 | 770 | - | 36 | 2535 | 72 | | | 1.0 |
| 5. | | | | | | | | | | | |

## RATE OF FLOW CALCULATIONS

| NO. | Coefficient (24 Hour) | $\sqrt{h_w P_m}$ | Pressure $P_m$ | Flow Temp. Factor Ft. | Gravity Factor Fg | Super Compress. Factor, Fpv | Rate of Flow Q, Mcfd |
|---|---|---|---|---|---|---|---|
| 1 | 9.453 | - | 113.2 | 1.032 | 1.264 | 1.000 | 1395.8 |
| 2. | 2.378 | - | 375.2 | 1.030 | 1.264 | 1.037 | 1204.6 |
| 3. | 1.087 | - | 659.2 | 1.028 | 1.264 | 1.063 | 989.9 |
| 4. | 0.6082 | - | 783.2 | 1.024 | 1.264 | 1.076 | 663.4 |
| 5. | | | | | | | |

| NO. | $P_t$ | Temp. °R | $T_r$ | Z |
|---|---|---|---|---|
| 1. | 0.17 | 488 | 1.42 | - |
| 2. | 0.57 | 490 | 1.42 | 0.930 |
| 3. | 0.99 | 492 | 1.43 | 0.885 |
| 4. | 1.18 | 496 | 1.43 | 0.863 |
| 5. | | | | |

Gas Liquid Hydrocarbon Ratio: Dry Gas Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: - Deg.
Specific Gravity Separator Gas: 0.626 XXXXXXXXX
Specific Gravity Flowing Fluid: XXXXX
Critical Pressure: 663 P.S.I.A. - P.S.I.A.
Critical Temperature: 344 R - R

$P_c$ 3572.2 $P_c^2$ 12782.1

| NO | $P_t^2$ | $P_w$* | $P_w^2$ | $P_c^2 - P_w^2$ |
|---|---|---|---|---|
| 1 | - | 2713.2 | 7361.5 | 5420.6 |
| 2 | - | 2844.2 | 8089.5 | 4692.6 |
| 3 | - | 3022.2 | 9133.7 | 3648.4 |
| 4 | - | 3233.2 | 10453.6 | 2328.5 |
| 5 | | | | |

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.358$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 2.128$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 2970$

Absolute Open Flow: 2970 Mcfd @ 15.025 | Angle of Slope θ: 48° 39' | Slope, n: 0.880

Remarks: * BHP @ (-5861') 9220' used for pressure calculations

| Approved By Commission: | Conducted By: | Calculated By: | Checked By: |
|---|---|---|---|
| | COLEMAN PET.ENG.CO. | Joe A. Coleman | Joe A. Coleman |